

CLAIMS

1. A method of receiving messages by a communication terminal, comprising:
receiving symbols of a frame of a transmitted encoded message; and
5 decoding the frame based on fewer received symbols than the number of symbols in the frame.

2. A method according to claim 1, wherein the decoding comprises decoding based on the received symbols and assumed values of symbols not received.

3. A method according to claim 2, wherein the assumed values comprise values which indicate that no knowledge is available about the symbols.

4. A method according to claim 2, wherein the assumed values comprise values of a message which is expected with a substantial probability.

5. A method according to claim 2, wherein the assumed values comprise values of a message for which early decoding is advantageous.

6. A method according to claim 5, wherein receiving fewer than all the symbols comprises receiving symbols of a message which is either a message indicating that the communication terminal should move to a sleep condition or a message which indicates that the communication terminal should remain in a wake condition, and wherein the assumed values comprise values of the message indicating that the communication terminal should move to the sleep condition.

7. A method according to claim 1, wherein receiving fewer than all the symbols comprises receiving symbols over a paging channel.

8. A method according to claim 1, wherein receiving fewer than all the symbols comprises receiving symbols of a message which, in a substantial probability, indicates that the communication terminal should move to a sleep condition.

9. A method according to claim 1, wherein receiving the symbols comprises receiving fewer than the number of symbols in the frame.

10. A method according to claim 1, wherein the decoding is completed before receiving all the symbols in the frame.

11. A method according to claim 1, wherein the decoding is performed using a predetermined number of received symbols.

12. A method according to claim 1, wherein the decoding is performed using an adaptively adjusted number of received symbols.

13. A method according to claim 12, wherein the decoding comprises decoding using a number of received symbols adjusted responsive to an estimate of the quality of a channel over which the message is received.

14. A method according to claim 12, wherein decoding using the adaptively adjusted number of symbols comprises decoding using a number of received symbols adjusted responsive to a rate of decoding successes of previously received messages.

15. A method according to claim 12, wherein the decoding comprises decoding using a number of received symbols adjusted responsive to a confidence margin of one or more previous decodings.

16. A method according to claim 1, wherein the decoding comprises decoding using the lowest number of received symbols which ensures a predetermined rate of success in decoding the message.

17. A method according to claim 1, comprising receiving symbols of the frame while decoding the message.

18. A method according to claim 17, comprising decoding the frame a second time using more received symbols than used in the previous decoding.

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19. A method according to claim 18, wherein decoding the frame the second time is performed only if the first decoding failed.

5 20. A method according to claim 18, wherein decoding the frame the second time comprises using a number of received symbols determined responsive to results of the previous decoding.

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21. A method according to claim 1, wherein receiving the symbols comprises receiving during an idle mode of the communication terminal.

22. A method of receiving messages by a communication terminal, comprising:
receiving symbols of a frame of an encoded message over a transmission channel;
determining a number of received symbols to be used in decoding the frame, the
15 determined number being fewer than the number of symbols in the frame for at least some of the received messages; and
decoding the frame using the determined number of received symbols.

23. A method according to claim 22, wherein determining the number of received symbols comprises determining the number of received symbols responsive to the channel on which the symbols are received.

24. A method according to claim 22, wherein determining the number of received symbols comprises determining the number of received symbols responsive to whether the
25 communication terminal is in idle mode.

25. A method according to claim 22, wherein determining the number of received symbols comprises determining the number of received symbols responsive to success rates in decoding previously received frames.

30 26. A method according to claim 22, wherein determining the number of received symbols comprises determining the number of received symbols responsive to success rates in decoding previously received frames.

Sub A 27. A method according to claim 22, wherein determining the number of received symbols comprises determining fewer than a total number of symbols in the frame.

5 28. A receiver, comprising:
 an input interface which receives symbols of a frame of a transmitted encoded message;
 a decoder which decodes the frame based on at least some of the received symbols; and
 a controller which determines how many of the received symbols of the frame are used
 in decoding the frame, the determined number being fewer than the number of symbols in the
 10 frame for at least some of the decoded frames.

29. A receiver according to claim 28, comprising a filler unit which provides padding symbols to the decoder in order to complete the received symbols to a complete frame.

15 30. A method of providing a decoding a message, comprising:
 receiving encoded symbols of a frame of a transmitted encoded message;
 altering the values of at least one of the received symbols of the frame; and
 decoding the frame based on the altered values.

20 31. A method according to claim 30, wherein receiving the encoded symbols comprises receiving fewer than the number of symbols in the frame.

25 32. A method according to claim 30, wherein altering the values of at least one of the symbols comprises altering the values so as to correspond to values of an expected message type.

33. A method according to claim 30, wherein altering the values of at least one of the symbols comprises altering irrespective of the received values.

30 34. A method according to claim 30, wherein altering the values of at least one of the symbols comprises altering responsive to the received values.

35. A method according to claim 34, wherein the received encoded symbols comprise soft data and wherein altering the values of at least one of the symbols comprises raising the confidence values of symbols whose values coincide with values of an expected message type.

5 36. A method according to claim 34, wherein the received encoded symbols comprise soft data and wherein altering the values of at least one of the symbols comprises lowering the confidence values of symbols whose values do not coincide with values of an expected message type.

10 37. A method according to claim 30, wherein altering the values of at least one of the symbols comprises altering the values provided the frame is altered less than an allowed extent.

15 38. A method according to claim 37, wherein altering the values of at least one of the symbols comprises determining a number of symbols which are to be altered and altering the frame only if the determined number of symbols is lower than an allowed number.

✓ 39. A method according to claim 30, comprising checking the decoded frame based on an error detection code to determine whether the decoding was successful.

20 40. A method according to claim 39, comprising performing an additional decoding attempt if the decoding was not successful.

✓ 41. A method according to claim 40, wherein the additional decoding attempt is performed without altering values of any of the symbols.

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Sub 42. A method of providing a decoded value of a received message, comprising:
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receiving encoded symbols of a frame of a transmitted encoded message;
decoding the frame based on at least some of the received encoded symbols, so as to
provide decoded bits;
30 altering the values of at least one of the decoded bits of the frame; and
providing decoded values of the bits of the frame including the altered values.

43. A method according to claim 42, wherein receiving the encoded symbols comprises receiving fewer than the number of symbols in the frame.

44. A method according to claim 42, wherein altering the values of at least one of the bits comprises altering the values so as to correspond to values of an expected message type.

45. A method according to claim 42, wherein altering the values comprises altering irrespective of the values of the decoded bits.

46. A method according to claim 42, wherein altering the values comprises altering responsive to the values of the decoded bits.

47. A method according to claim 46, wherein altering the values comprises altering the values provided the frame is altered less than an allowed extent.

48. A method according to claim 47, wherein altering the values comprises determining a number of bits which are to be altered and altering the frame only if the determined number of bits is lower than an allowed number.

49. A method according to claim 42, comprising checking the provided decoded values based on an error detection code to determine whether the decoding was successful.

50. A method according to claim 49, comprising performing an additional decoding attempt if the decoding was not successful.

51. A method according to claim 50, wherein the additional decoding attempt is performed without altering values of any of the bits.